

Work Order ID 82621

April-03-12 3:51:10 PM

82621

Page 1

Item ID: D350-636-013

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Skidtube LH

Stop ***NS2***

Start Date: 03/04/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 18/04/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/04/03 Tooling:

Date:

Run Start ***NR1***

QC:

Date: SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2750	F								
D3492	C								
IIN-D350-636	I								

100

0.00

100

DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy blue file and type labels per PPP D350-636-013 CHG 006

JB Szulzo *HG MLJ 12-4-20*

B82621

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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NOTE: Date & initial all entries

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110	Skidtubes	0.00							
110									
Skidtubes	Memo	0.00							
Skidtubes	1- Pick D2600-3 Bent								
	2- Deburr FWD and AFT ends, remove bending marks. Scribe batch# inside AFT end per dwg D2750								
	3- Drill pilot holes for blade fitting bolt holes using DT8983. Open to 0.500", deburr.								
	4- Locate DT8330 off of blade fitting bolt holes and drill pilot holes for blade fitting								
	5- Drill only two fwd step holes using DT9616. Ensure proper positioning.								
	6- Drill pilot holes as per Dwg D2750 sheet # (D2750-3 details). Drill using drill Jig DT8150 & DT8863A for first side only DT8863B for second side (detail B)								
	7- Clecko DT8863B on second side of tube and drill pilot holes for detail B. ***SECOND SIDE***								
	8- Open up holes for SECTION AW-AW to 0.375" (2 holes per side) and blade fitting location holes to 0.500" (total of 4 holes per side) as per dwg D2750. Open holes for ground handling and detail T to 0.500" (8 holes per side)								
	9-Drill pilot holes for wearplates as per Dwg D2750 using DT8108 open to 0.297".								
	10-Open up holes of Detail A to 0.297" (total of 2 holes per side)								

BB 12/04/09

BB 12/04/10

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Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

11-Weld D2744 Cap as per Dwg D2750 and QSI 004. Fill grooves in bend left
from bending as per QSI 004

A/R Aluminum Rod batch: *m120164*

12-Grind welds flush as per Dwg D2750

BE 12/04/10
CF 12-4-11

120

QC10- Inspect visual per QSI004- ground welds

0.00

120

QC

Memo

0.00

Quality Control

130

QC5- Inspect part completeness to step on W/O

0.00

130

QC

Memo

0.00

Quality Control

S 12/04/11

S 12/04/11

(40)

W/O:		WORK ORDER CHANGES					
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Run Start *NR1*


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Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140									
HandFinish	Memo	0.00							
Hand Finishing									
150	QC3- Inspect Part Finish	0.00							
150									
QC	Memo	0.00							
Quality Control									

NG 12-4-11

DP 12-4-11
PTO

W/O: 82621		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
24-11	150	Stand read QCT		24-11				

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00

160

Skidtubes

0.00

Skidtubes

Memo

Skidtubes

1-Open up holes section AW-AW 0.500" (4 per side) as per dwg D2750

3-Open up holes of Detail T and ground handling to 0.625" (total of 8 holes per side Detail AV-AV) as per dwg D2750.

4-Chamfer holes of section AW-AW, AV-AV, T and ground handling. (welding instructions on sheet 10)

5-Deburr and blow out all chips from inside of tube. Prepare tube for welding. remove alodine as required.

6-Bond web D2739 in place as per QSI 015

A/R Sikaflex-291

batch: 120813exp. date: 12-08-13

7- Weld spacers D3490-1, D3490-5 and D2743 as per dwg D2750 & QSI004 (welding instructions on sheet 10)

A/R Aluminum Rod

batch: M120854

8-Grind welds flush as per Dwg D2750

9-Spot face ground handling holes (total of 4 places per side) as per dwg D2750

10-Deburr holes

BE 12-04-13
CF 12-4-13

BE/CC 12/04/16

W/O:		WORK ORDER CHANGES					
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Approvals:

Process Plan:

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Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

170

QC10- Inspect visual per QSI004- ground welds

0.00

170

QC

Memo

0.00

Siz/ky/16

Quality Control

180

QC5- Inspect part completeness to step on W/O

0.00

180

QC

Memo

0.00

Siz/ky/16

Quality Control

190

Pressure Wash per QSI005 4.3

0.00

190

HandFinish

Memo

0.00

Hand Finishing

Re-alodine tube as per QSI 005 section 4.1.2.1 do not acid etch.

M6 12-4-17

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

200

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

200

Powdercoat

Powder Coating

Memo

START TIME:

OVEN TEMPERATURE:

FINISH TIME:

0.00

IX

✓

ML 12/04/17

210

QC3- Inspect Part Finish

0.00

210

QC

Quality Control

Memo

Inspect for foreign object per QSI 024

0.00

1611

d

ML 12/04/18

220

HandFinishing

0.00

220

HandFinish

Hand Finishing

Memo

1-Install inserts as per dwg D2750

0.00

1611

d

ML 12/04/18

Dart Aerospace Ltd

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Run Start ***NR1***

QC: Date: SPC (Y/N): Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

230

0.00

230

HandFinishing

HandFinish

Memo

0.00

Hand Finishing

1-Inspect for Foreign Objects

2-Spray inside of tube with "LPS-3" batch: MLA

3-Install blade fitting D3488-041, wearshoes and ground handling hardware as per dwg D2750

SIKA FLEX 241

BATCH: 11121221

EXP DATE: 13101

4-assemble o'ring to plug as per dwg D3492 and apply o'ring lube

A/R 55-o'ring lube batch: 11110348

5-Coat all exposed fasteners with "LPS Procyon" batch: 11114596

240

QC5- Inspect part completeness to step on W/O

0.00

240

QC

Memo

0.00

Quality Control

1211 9 Jul 12/05/19

Srnlw/19

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Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

250

Pick Kit

0.00

250

Packaging

Memo

0.00

Packaging

1 12/04/20 JB

260

QC4- 100% Inspect kits for completeness

0.00

260

QC

Memo

0.00

Quality Control

8 #260/20

270

Packaging

0.00

270

Packaging

Memo

0.00

Packaging

Package as per PPP D350-636-013

Rev 1

12 12/4/08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Process Plan:

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Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***Sequence ID/
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DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00


280

QC

Memo

0.00

Quality Control

12/4/23 

12-04-27

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:H02.09.25Rearranged procedure steps KJ
 IPP rev I 06.03.30 Per rev. D dwg EC
 IPP Rev:J 07-07-28 Added SS Wearplates(Rev E) JLM Verified By:EC
 IPP Rev:K 08-09-23 revF as per dwg DD verified by:ec IPP Rev:L
 10.06.22 revise seq110 DD verf:EC IPP Rev:M 10.10.01 as
 per IIN revH DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2600-3-BENT		Manufactured	No			110	Each	15.0000	1				

D2600-3-BENT

Extrusion Bent

Location	Loc Qty	Loc Code
LG	15	
66875	7	
73253	1	
75021	1	
75022	1	
75023	1	
81330	4	

D3493-1

Manufactured No

110

Each

54.0000

2

2

D3493-1

Washer

Location	Loc Qty	Loc Code
ST050	54	
70697	2	
77573	12	
78835	40	

78835

1

12/04/10

93 12/04/20

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D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D2739

Manufactured No

160

Each

8.0000

1

D2739

350 I Beam

**

①

BE 12-04-11

Location

Loc Qty

Loc Code

LG

8

72155

1

81508

3

82122

4

D2744

Manufactured No

160

Each

48.0000

1

1

D2744

Cap

**

BE 12/04/10

Location

Loc Qty

Loc Code

LG002

48

62715

1

70881

5

78900

42

D3490-1

Manufactured No

160

Each

128.0000

4

4

D3490-1

Cross Bolt Spacer

**

*BE 12/04/13
B 81976 4*

Location

Loc Qty

Loc Code

LG

119

81976

119

LG001

9

62450

2

74875

4

77042

3

W/O:		WORK ORDER CHANGES					
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D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D3490-5

Manufactured No

160

Each

45.0000

4

4

D3490-5

Cross Bolt Spacer

**

BE 12/04/13

Location

Loc Qty

Loc Code

LG

25

78958

25

LG001

20

59230

20

D2743

Manufactured No

220

Each

354.0000

8

8

D2743

Crossbolt Spacer

**

BE 12/04/13
B 81965 *8

Location

Loc Qty

Loc Code

LG001

354

67766

4

68251

3

73403

64

74445

1

78603

2

79517

70

ALS4-1032-225

Purchased No

230

Each

477.0000

38

38

AI S4-1032-225

Insert

**

M121269 (x38) 21 12/04/15

Location

Loc Qty

Loc Code

ST281

454

108696

146

110768

62

118386

55

118966

68

120671

123

ST282

23

120410

10

120451

13

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Shop Packet Print

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Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 4

Work Order ID: 82621

82621

Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

AN3C5A

Purchased

No

230

Each

1,602.000

34

34

AN3C5A

Bolt

**

22 12/04/18

Location

Loc Qty

Loc Code

FP001

7

115835

7

ST350

1595

116419

28

117343

13

117764

7

117872

2

119749

23

120423

522

1210168

500

121255

500

X34

AN3C6A

Purchased

No

230

Each

517.0000

4

4

AN3C6A

BOLT

**

1120693 (x4) 22 12/04/18

Location

Loc Qty

Loc Code

FP001

1

111982

1

ST351

516

111982

2

116419

23

116549

2

116704

12

117619

10

117688

1

117872

5

118422

13

119449

21

120423

27

120693

400

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

Page 5

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Work Order ID: 82621

82621

Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

AN6C44A

Purchased

No

230

Each

175.0000

4

4

AN6C44A

BOLT

**

24

12/04/18

Location

Loc Qty

Loc Code

FG

2

103964

2

ST343

173

120143

25

120465

27

120641

1

121013

20

121167

100

AN8C35A

Purchased

No

230

Each

56.0000

1

1

AN8C35A

BOLT

**

24

12/04/18

Location

Loc Qty

Loc Code

FP002

55

115960

1

117834

8

118286

46

ST346

1

114442

0

115188

0

115960

1

AN960C10L

NAS1149C0332

Purchased

No

230

Each

0.0000

38

38

*AN960C10L * 7

washer

**

11/12/1255 (x38)

24 12/04/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Work Order ID: 82621

82621

Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D2745

Manufactured No

230

Each

64.0000

8

8

D2745

Bushing

**

B81964 (x8) MU 12/04/12

Location

Loc Qty

Loc Code

FP

62

79518

62

FP001

2

69529

1

76142

1

D3488-041

Manufactured No

230

Each

11.0000

1

1

D3488-041

Blade Fitting Assembly, LH

**

MU 12/04/12

Location

Loc Qty

Loc Code

FP002

11

61689

1

75056

2

77021

8

D3492-1

Manufactured No

230

Each

46.0000

8

8

D3492-1

Plug

**

B81963 (x8) MU 12/04/12

Location

Loc Qty

Loc Code

FP002

46

69531

8

74444

2

76235

4

77037

32

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621

D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D3492-5

Manufactured No

230

Each

72.0000

8

8

D3492-5

Plug

**

u 210410

Location

Loc Qty

Loc Code

FP

40

78792

40

FP002

32

77044

32

✓8

D3535-25

Manufactured No

230

Each

22.0000

1

1

D3535-25

Wearshoe

**

u 210410

Location

Loc Qty

Loc Code

FP001

22

62233

1

80331

10

81357

11

✓1

D3536-25

Manufactured No

230

Each

22.0000

1

1

D3536-25

Gasket

**

u 210418

Location

Loc Qty

Loc Code

FP

14

81342

14

FP002

8

78902

8

✓1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 8

Work Order ID: 82621

82621

Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D3537-1

Manufactured No

230 Each

46.0000 3 3

D3537-1

Wearpad

**** B73716 (x3) Al 12/04/18**

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	10	
79833	10	
FP002	36	
69817	5	
80337	31	

D3631-1

Manufactured No

230 Each

243.0000 8 8

D3631-1

Washer

**** Al 12/04/18**

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FG	100	
81874	100	
ST072	143	
68062	2	
<u>75548</u>	141	

D3791-1

Manufactured No

230 Each

9.0000 1 1

D3791-1

Wearplate

**** Al 12/04/18**

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
FP002	9	
62239	2	
<u>78897</u>	7	

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621

D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D3793-1 Manufactured No 230 Each 26.0000 1 1
D3793-1
 Wearshoe ** ~~B78897~~ (x1) JH nlo4/1g

Location	Loc Qty	Loc Code
FP001	26	
78901	10	
82171	16	

D3793-3 Manufactured No 230 Each 30.0000 1 1
D3793-3
 Wearshoe ** JH u lo 4/18

Location	Loc Qty	Loc Code
FP001	23	
80434	11	
82166	12	
FP002	7	
78935	7	

D3794-1 Manufactured No 230 Each 16.0000 1 1
D3794-1
 Gasket ** JH nlo4/1g

Location	Loc Qty	Loc Code
FP002	16	
75042	4	
80435	12	

D3794-3 Manufactured No 230 Each 24.0000 1 1
D3794-3
 Gasket ** JH nlo4/1g

Location	Loc Qty	Loc Code
FP002	24	
74530	2	
78895	1	
80436	21	

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 10

Work Order ID: 82621

82621

Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

MS21043-6

Purchased

No

230

Each

773.0000

4

4

MS21043-6

NUT

**

22

12/04/18

Location

Loc Qty

Loc Code

FG

20

103693

20

ST301

753

112314

47

117887

6

118384

200

120308

500

x4

MS21083C8

Purchased

No

230

Each

115.0000

1

1

MS21083C8

NUT

**

x120731 (x1) 22 12/04/18

Location

Loc Qty

Loc Code

304

50

121185

50

FP002

1

115884

1

ST303

6

115884

0

118077

1

119309

2

119436

1

119638

2

ST304

58

120142

8

120731

25

121011

25

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 11

Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621

D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1149C0832R

Purchased

No

230

Each

296.0000

1

1

NAS1149C0832R

WASHER

**

yl 12/04/18

Location

Loc Qty

Loc Code

ST297

296

114915

296

NAS1515H3L

Purchased

No

230

Each

202.0000

4

4

***NAS1515H3I ***

WASHER

**

yl 12/04/18

Location

Loc Qty

Loc Code

FG

40

102472

40

ST277

162

118686

3

119438

1

120072

12

120360

96

121243

50

NAS1611-005

Purchased

No

230

Each

204.0000

8

8

NAS1611-005

O-RING

**

yl 12/04/18

Location

Loc Qty

Loc Code

FP001

204

106099

31

114220

105

119438

68

yg

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 12

Work Order ID: 82621

82621

Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

NAS1611-010

Purchased

No

230

Each

275.0000

8

8

NAS1611-010

O-RING

**

xl 12/04/15

Location

Loc Qty

Loc Code

FP

50

110915

0

120770

50

FP001

225

110915

14

117460

8

118077

1

118612

3

119438

47

120986

50

121166

52

121259

50

Y 8

AN8C21A

Purchased

No

260

Each

79.0000

2

2

AN8C21A

BOLT

**

JB 12/04/20

Location

Loc Qty

Loc Code

ST343

79

118758

5

120094

34

121067

20

121167

20

120094

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Page 13

Work Order ID: 82621

82621

Parent Item: D350-636-013

D350-636-013

Parent Item Name: Skidtube LH

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

D2741

Manufactured No

260

Each

67.0000

1 1 ✓

D2741

Blade, 350 Skidtube

**

JB

Location

Loc Qty

Loc Code

ST

-10

ST466

77

71856

1

76984

26

79516

40

76984

D3672-1

Manufactured No

260

Each

1,028.000

8 8 ✓

D3672-1

Phenolic Washer

**

JB 12/04/20

Location

Loc Qty

Loc Code

FP001

34

66821

34

ST060

994

72229

4

76277

490

80369

500

66821

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

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Work Order ID: 82621

Parent Item: D350-636-013

Parent Item Name: Skidtube LH

82621

D350-636-013

Start Date: 03/04/2012

Required Date: 18/04/2012

Start Qty: 1.00

Required Qty: 1.00

MS21083C8

Purchased

No

260

Each

115.0000

2

2

✓

MS21083C8

NUT

**

JB

Location

Loc Qty

Loc Code

304

50

121185

50

FP002

1

115884

1

ST303

6

115884

0

118077

1

119309

2

119436

1

119638

2

ST304

58

120142

8

120731

25

121011

25

121011

2

✓

NAS1149D0863J

Purchased

No

260

Each

219.0000

2

2

NAS1149D0863.J

WASHER

**

JB

12/04/20

Location

Loc Qty

Loc Code

ST298

219

118078

36

119307

83

120308

100

119307

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

QTY -041	QTY -042	QTY -043	QTY -044	PART NUMBER	DESCRIPTION
X				D2750-041	350 SKIDTUBE ASSEMBLY, LH
	X			D2750-042	350 SKIDTUBE ASSEMBLY, RH
		X		D2750-043	350 SKIDTUBE ASSEMBLY, LH
			X	D2750-044	350 SKIDTUBE ASSEMBLY, RH
1	1	1	1	D2739	WEB
8	8	8	8	D2743	SPACER
1	1	1	1	D2744	CAP
8	8	8	8	D2745	BUSHING
1				D2750-1	SKIDTUBE WELDMENT, LH
	1			D2750-2	SKIDTUBE WELDMENT, RH
		1		D2750-3	SKIDTUBE WELDMENT, LH
			1	D2750-4	SKIDTUBE WELDMENT, RH
1		1		D3488-041	BLADE FITTING, LH
	1		1	D3488-042	BLADE FITTING, RH
4	4	4	4	D3490-1	SPACER
4	4			D3490-3	SPACER
		4	4	D3490-5	SPACER
8	8	8	8	D3492-041	PLUG ASSEMBLY
8	8			D3492-043	PLUG ASSEMBLY
		8	8	D3492-045	PLUG ASSEMBLY
1	1	1	1	D3535-25	WEARSHOE
1	1	1	1	D3536-25	GASKET
3	3	3	3	D3537-1	WEARPAD
8	8	8	8	D3631-1	WASHER
1	1	1	1	D3791-1	WEARPLATE
1	1	1	1	D3793-1	WEARSHOE
1	1	1	1	D3793-3	WEARSHOE
1	1	1	1	D3794-1	GASKET
1	1	1	1	D3794-3	GASKET
38	38	38	38	ALS4-1032-225	INSERT (OR ALS7-1032-225, AKS4-1032-225, AELS-1032-225)
34	34	34	34	AN3C5A	BOLT
4	4	4	4	AN3C6A	BOLT
4	4	4	4	AN6C44A	BOLT
1	1	1	1	AN8C35A	BOLT
38	38	38	38	AN960C10L	WASHER
1	1	1	1	AN960C816L	WASHER
4	4	4	4	MS21043-6	NUT
1	1	1	1	MS21083C8	NUT
4	4	4	4	NAS1515H3L	WASHER

GENERAL NOTES:

- 1) MATERIAL: MAKE D2750-1/-2/-3/-4 FROM D2600-3 EXTRUSION (INITIAL LENGTH = 120.0).
- 2) FINISH:
ACID ETCH, ALONDE ASSEMBLY PER DART QSI 005 4.1 PRIOR TO INSTALLING D2739 WEB.
POWDER COAT WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED TO 1.0 ABOVE SKIDTUBE CENTER-LINE PER DART 005 4.4 (OPTIONAL).
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: D2750-041/-042/-043/-044 = 26.5 LBS
- 8) WELD PER DART QSI 004
- 9) INSTALL ALS4-1032-225 INSERTS AFTER FINISH AS INDICATED. DRILL 'F' SIZE HOLES ($\phi 0.297$) FOR WEARSHOE INSERTS
- 10) FINAL CONFIGURATION SHOULD HAVE THE FOLLOWING MINIMUM MECHANICAL PROPERTIES:
MINIMUM YIELD TENSILE STRENGTH = 35 KSI
MINIMUM ULTIMATE TENSILE STRENGTH = 38 KSI
- 11) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS.
COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF
POWDER COATING WITH MEK DEGREASER.
- 12) SPACER AND PLUG INSTALLED SAME AS SECTION AJ-AJ EXCEPT HORIZONTAL
- 13) SPACER AND PLUG INSTALLED SAME AS SECTION AP-AP EXCEPT HORIZONTAL

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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 82621 MLJ

12/04/03

RELEASED

F	INCORPORATE DSI 9413; QTY (3) D3537-1 WAS QTY (5) (ZN C8-1); D3791-1/-3 REPLACES D3535-13/-35 (ZN C8-1); D3794-1/-3 REPLACES D3536-13/-35 (ZN B8-1); ADD D3791-1 (ZN C8-1); WEARSHOE HOLES UNDER FWD/AFT SADDLE REMOVED (8 PL). WEARSHOE HARDWARE QTY UPDATED (ZN B8-1); D3488-041/-042 HARDWARE UPDATED (ZN C1-8, 9, 10, 11); ADD NOTE 12 AND 13 (ZN A6-1); REASON: REF. NCR 08-043	PH	08.07.16
E	CHANGE TO STAINLESS STEEL WEARPLATES; ADD RUBBER GASKETS, CHANGE INSERTS; ADD D3631-1; REMOVE QTY (38) NAS1515H3L; REMOVE QTY (10) NAS1515H8L; REMOVE D2741; QTY (2) AN960C816; REMOVE QTY (2) MS21083C8	CB	07.05.17
D	ADD HOLES AND SPACERS FOR APICAL FLOATS; INCORPORATE DEC 91339157	PH	06.01.05
C	ADD D2750-3/D2750-4; INCORPORATE D2738 AND D2740	CP	98.11.18
B	CHANGE MS24694-S293 TO AN8-16A	CP	98.09.01
A	NEW ISSUE	DS	98.04.16
REV.	DESCRIPTION	BY	DATE
DESIGN	PA		
DRAWN	RA		
CHECKED	LA		
MFG. APPR.	LA		
APPROVED	LA		
DE APPR.	LA		
DATE	08.07.16		

DART AEROSPACE USA, INC.	
PORT HADLOCK, WA	
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D2750	SHEET 1 OF 11
TITLE	SCALE
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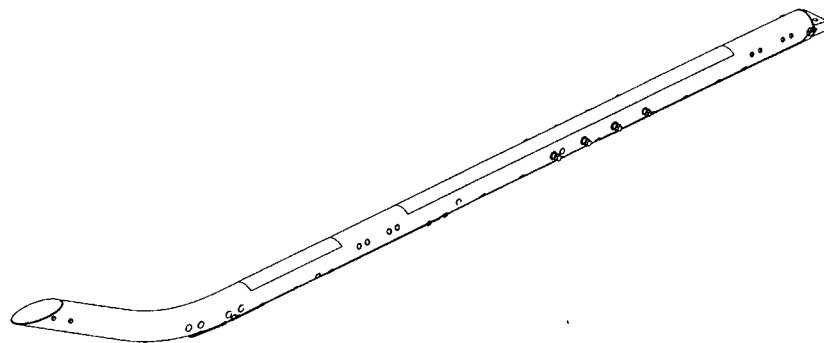
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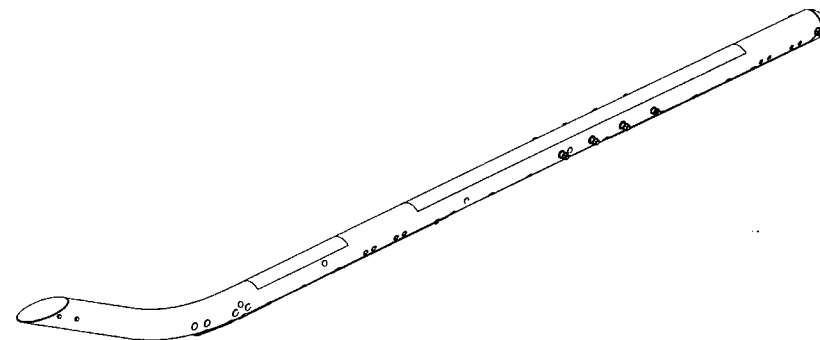
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

82621



D2750-041 350 SKIDTUBE ASSEMBLY, LH



D2750-042 350 SKIDTUBE ASSEMBLY, RH

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82-0227-14

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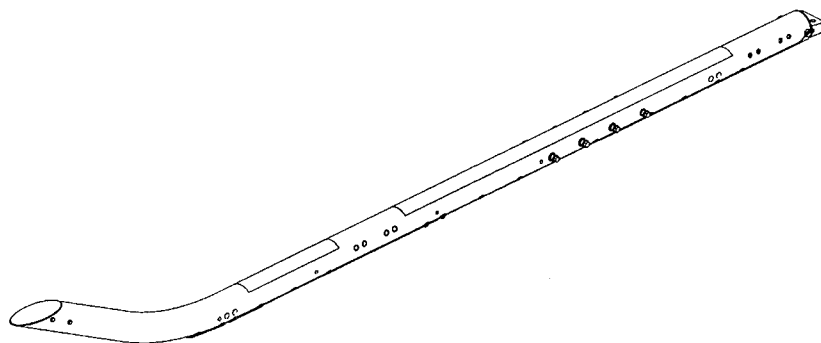
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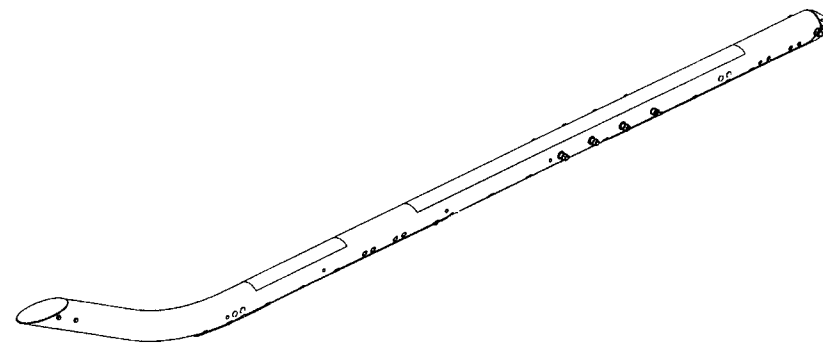
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

82621



D2750-043 350 SKIDTUBE ASSEMBLY, LH



D2750-044 350 SKIDTUBE ASSEMBLY, RH

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68-9-22/111

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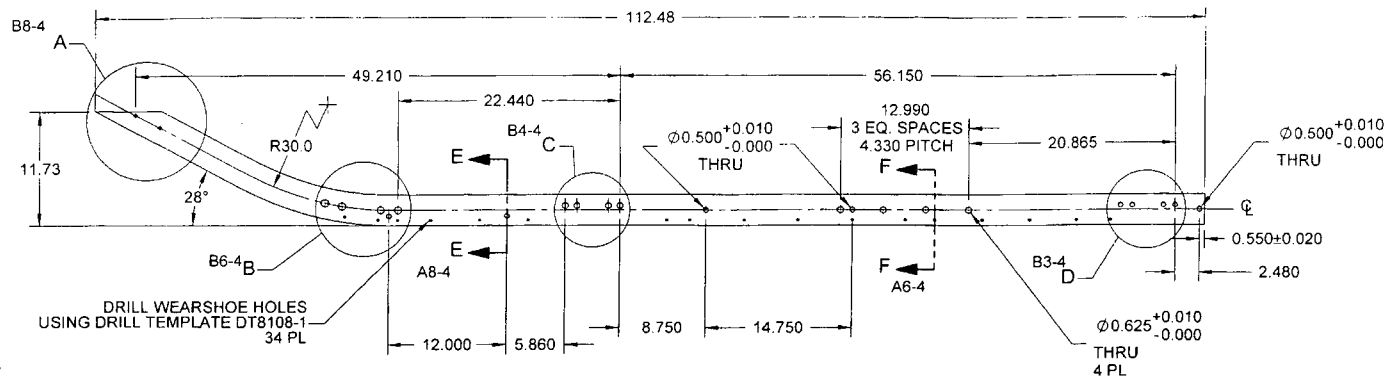
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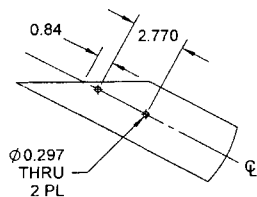
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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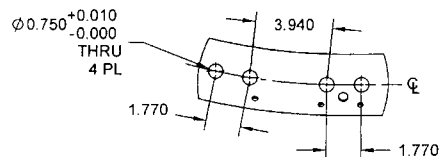
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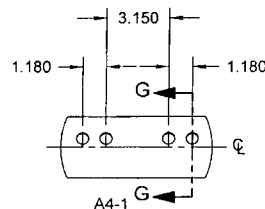
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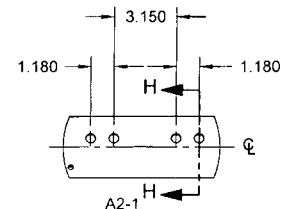
DETAIL A
SCALE 2X



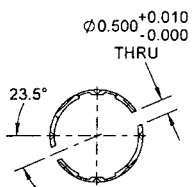
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SCALE 2X



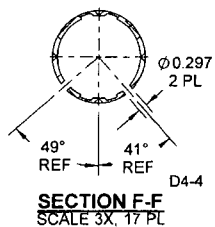
DETAIL C
SCALE 2X



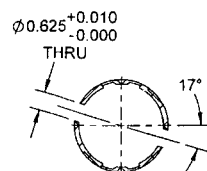
DETAIL D
SCALE 2X



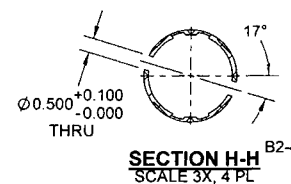
SECTION E-E
SCALE 3X, 2 PL



SECTION F-F
SCALE 3X, 17 PL



SECTION G-G
SCALE 3X, 4 PL



SECTION H-H
SCALE 3X, 4 PL

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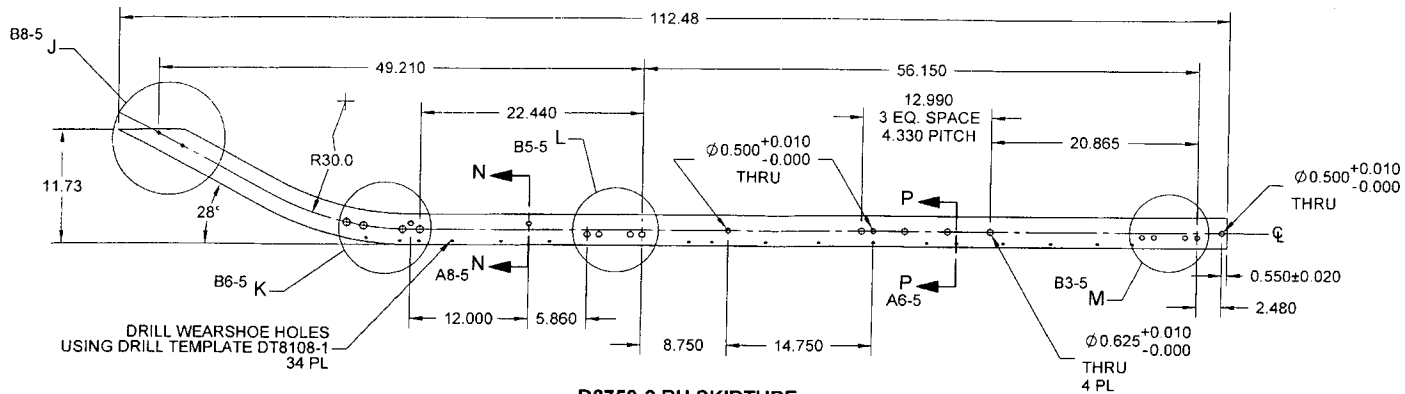
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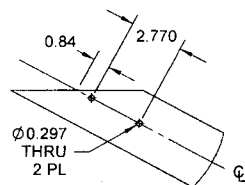
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

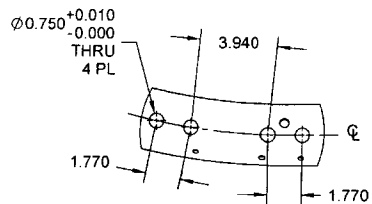
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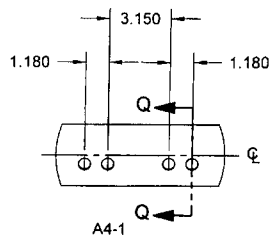
D2750-2 RH SKIDTUBE



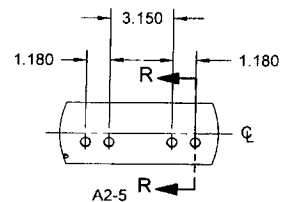
DETAIL J
SCALE 2X



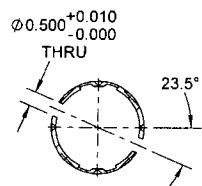
DETAIL K
SCALE 2X



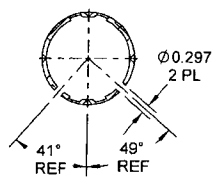
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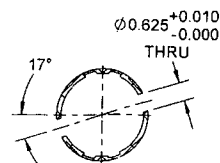
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SCALE 2X



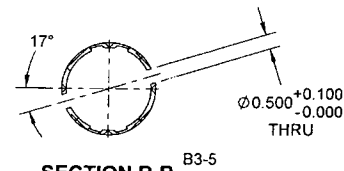
SECTION N-N
SCALE 3X, 2 PL



SECTION P-P
SCALE 3X, 17 PL



SECTION Q-Q
SCALE 3X, 4 PL



SECTION R-R
SCALE 3X, 4 PL

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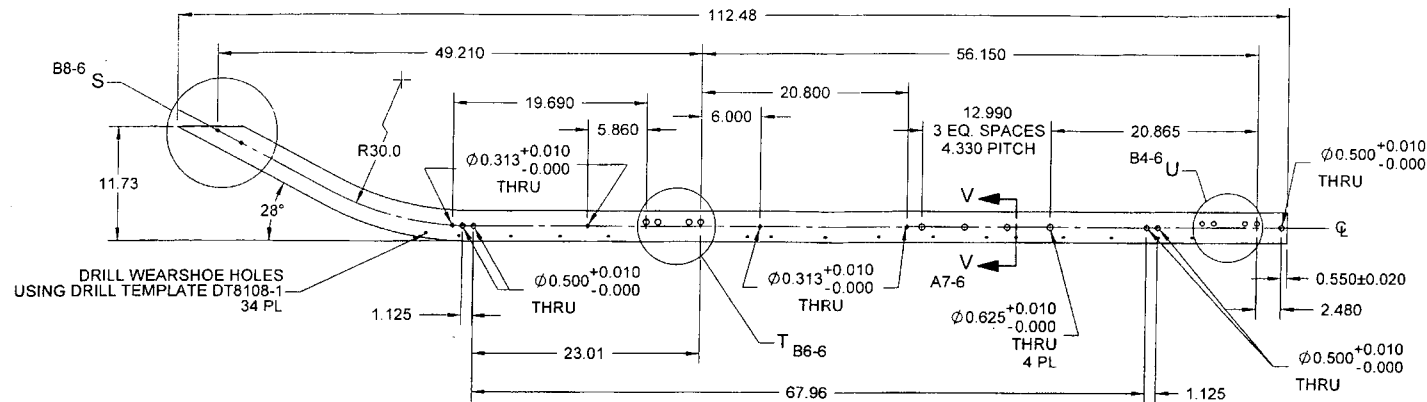
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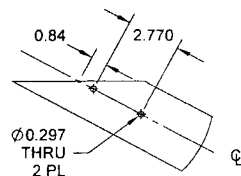
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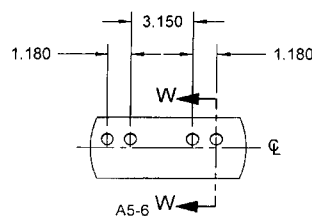


D2750-3 LH SKIDTUBE



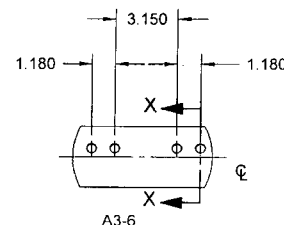
DETAIL S
SCALE 2X

D8-6



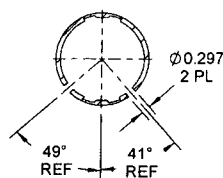
DETAIL T
SCALE 2X

C5-6



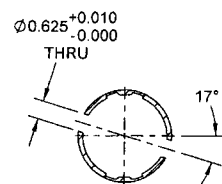
DETAIL U
SCALE 2X

D3-6



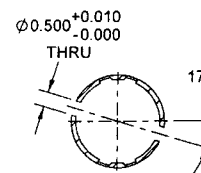
SECTION V-V
SCALE 3X, 17 PL

C4-6



SECTION W-W
SCALE 3X, 4 PL

B6-6



SECTION X-X
SCALE 3X, 4 PL

B4-6

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06 APR 1988

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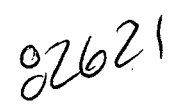
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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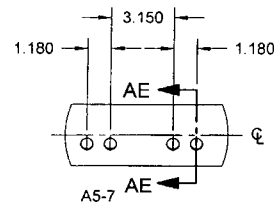
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

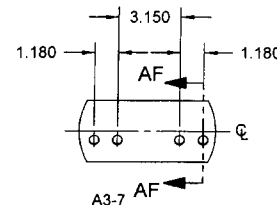
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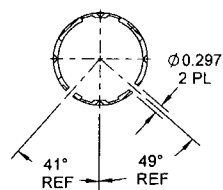
D7-7
DETAIL AA
SCALE 2X



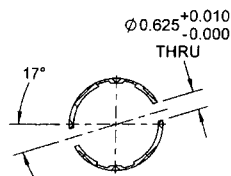
C4-7
DETAIL AB
SCALE 2X



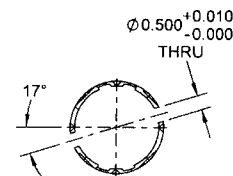
DETAIL AC D3-7
SCALE 2X



SECTION AD-AD D3-7
SCALE 3X, 17 PL



SECTION AE-AE
SCALE 3X, 4 PL



SECTION AF-AF
SCALE 3X, 4 PL

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08-09-22

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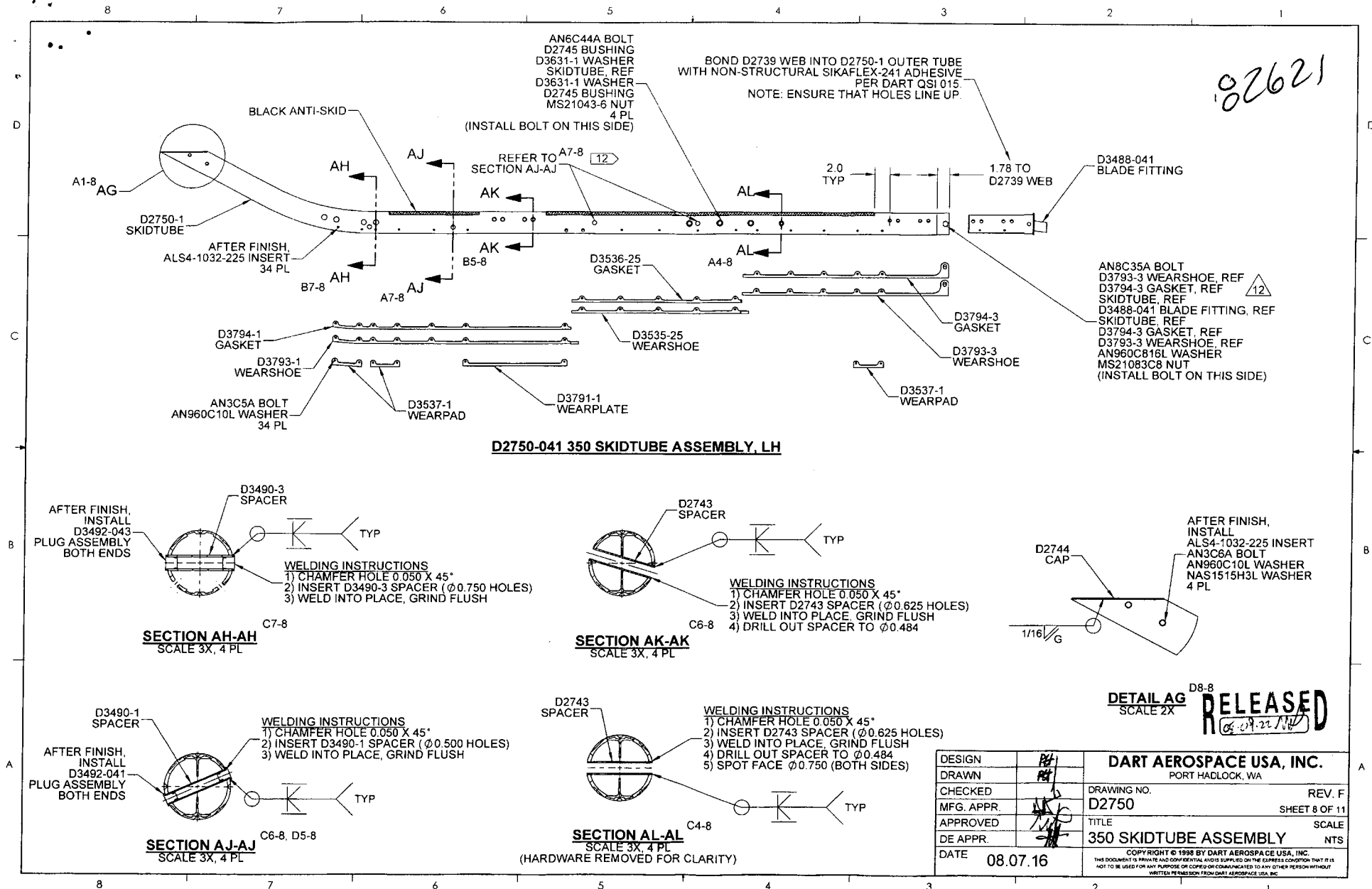
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NOTE: Date & initial all entries



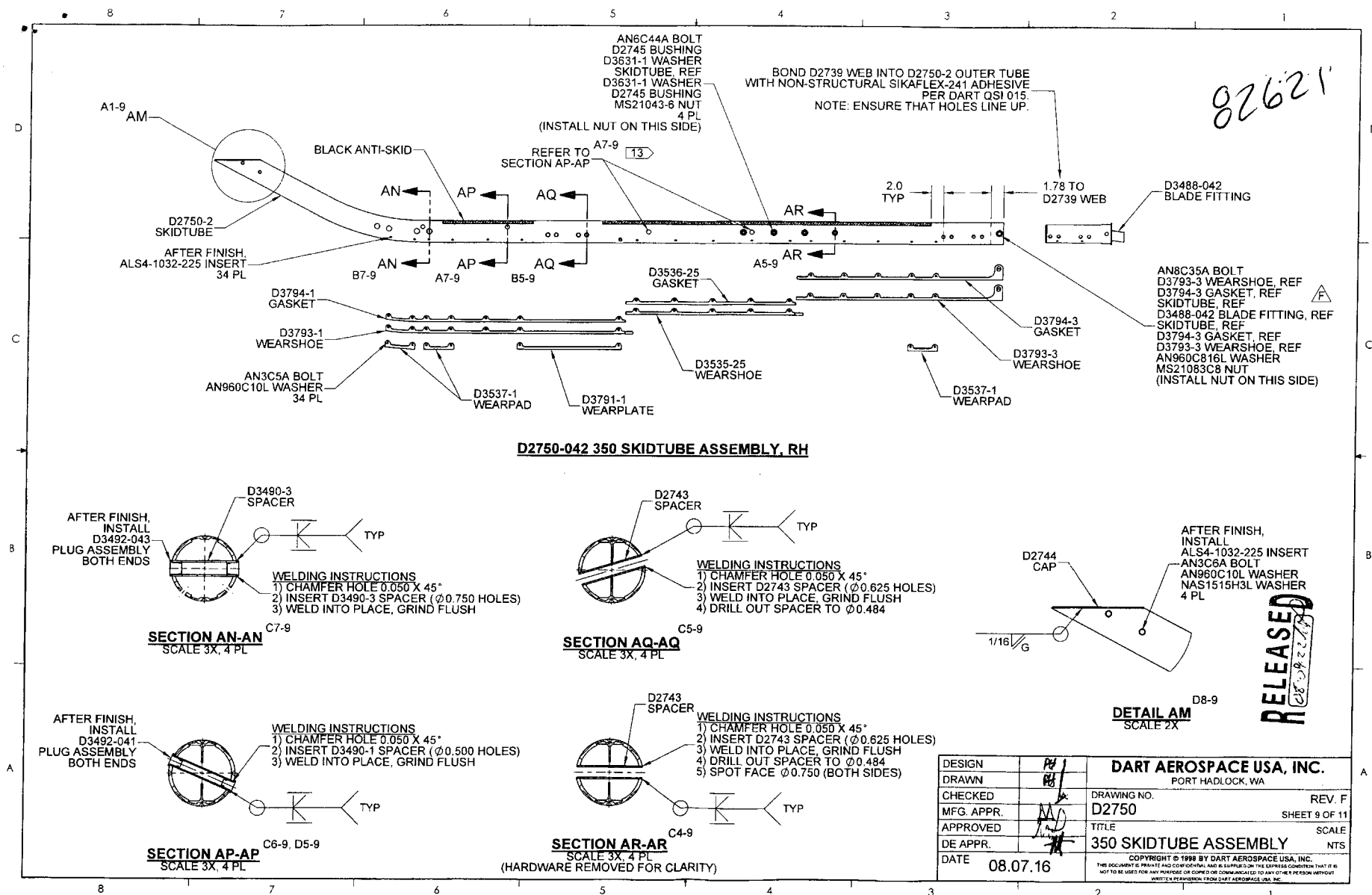
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



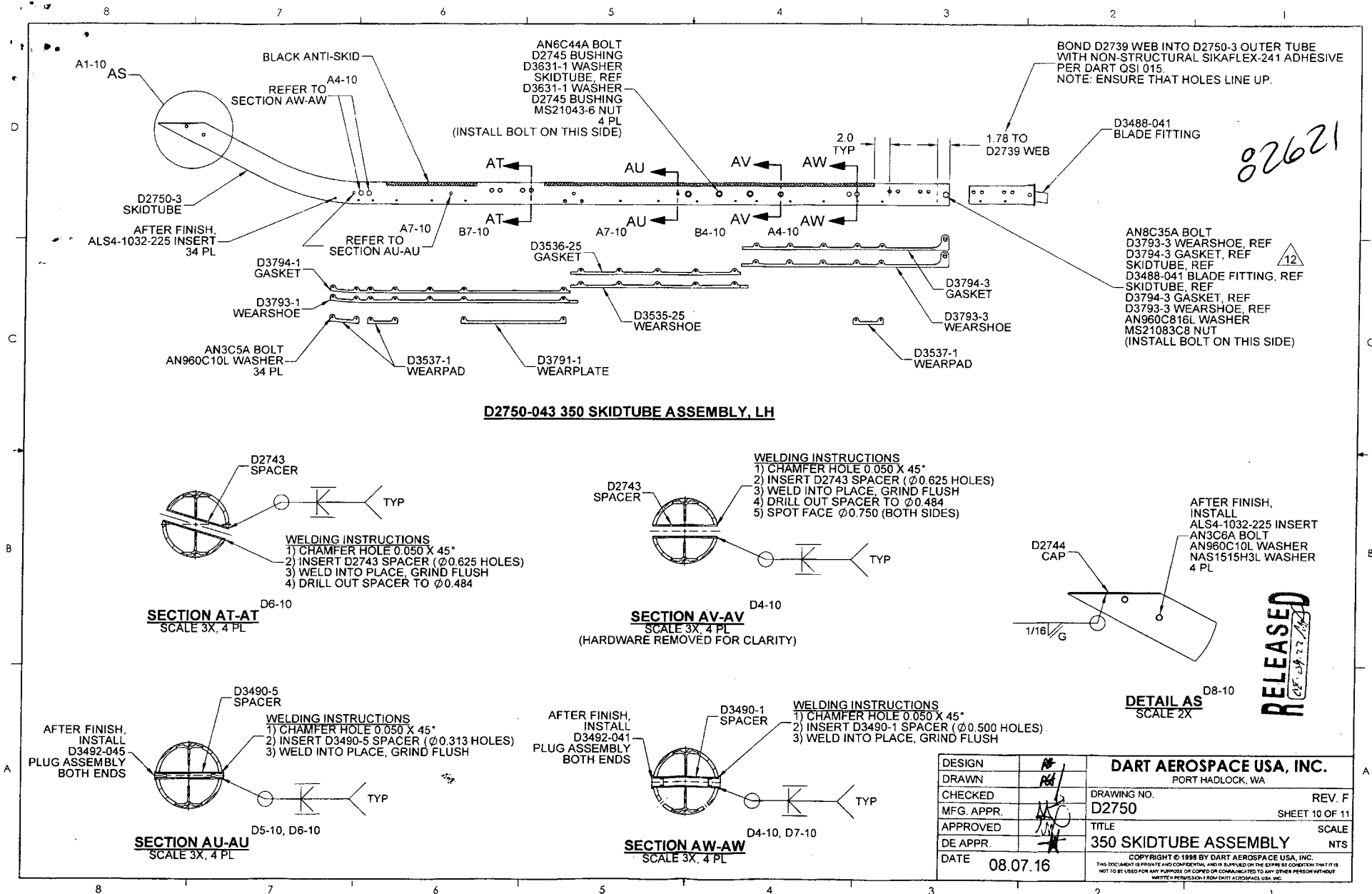
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



W/O:		WORK ORDER CHANGES					
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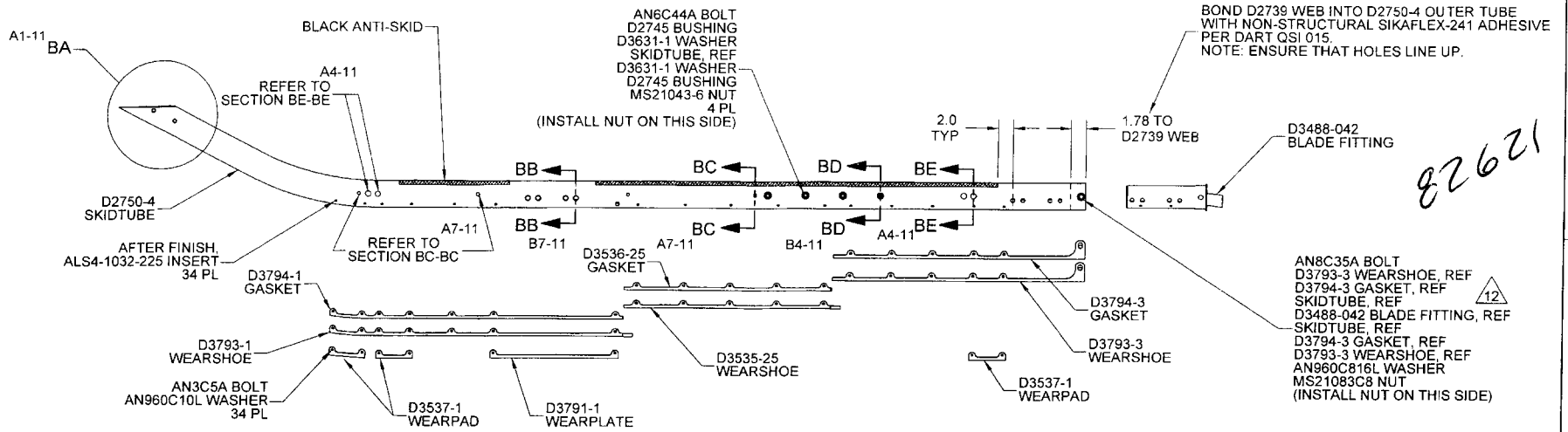
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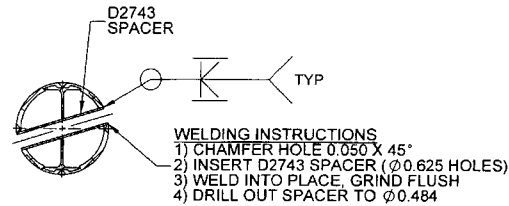
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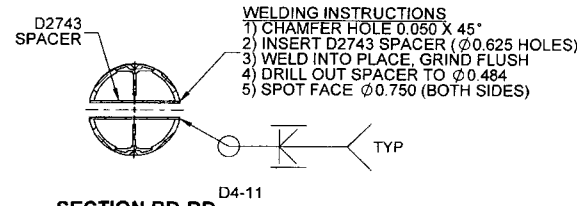
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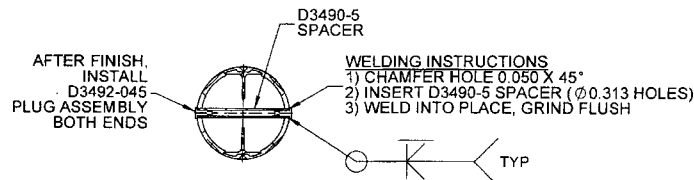
D2750-044 350 SKIDTUBE ASSEMBLY, RH



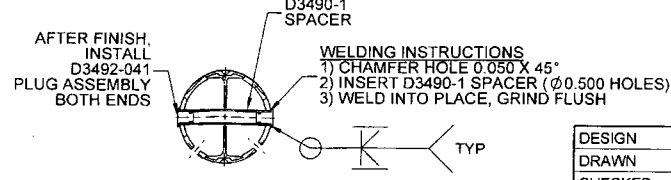
SECTION BB-BB
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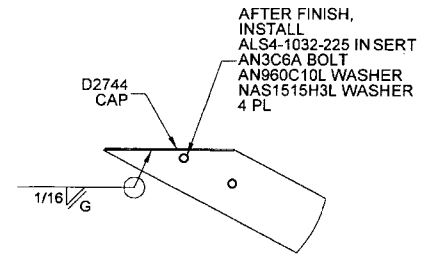
SECTION BD-BD
SCALE 3X, 4 PL
(HARDWARE REMOVED FOR CLARITY)



SECTION BC-BC
SCALE 3X, 4 PL



SECTION BE-BE
SCALE 3X, 4 PL



DETAIL BA
SCALE 2X

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 286

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 82189
Part number: A350-606-012
Description: Skid tube
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier David Lund Date of Test Coupon 12.24.03
Welder Barclay Elliott Date of Test Coupon 12-04-03

The above named individual is qualified in accordance with AWS D17.1.2001 to weld